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EXAMINER	
EDWARDS, PATRICK L	

ART UNIT	PAPER NUMBER
2621	6

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/771,214	CHITRADON ET AL.	
	Examiner	Art Unit	
	Patrick L Edwards	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The response received on May 28, 2004 has been placed in the file and was considered by the examiner. An action on the merits follows.

Response to Arguments

2. The applicant's arguments, filed on May 28 2004 , have been fully considered. A response to these arguments is provided below.

35 USC 112, Second Paragraph Rejections

Summary of Argument: The applicant has amended claim 1 to overcome the 35 USC 112 – 2nd paragraph rejection. The applicant has traversed the two additional 112 – 2nd paragraph rejections and argues that these two rejections should be withdrawn.

Examiner's Response: The applicant's arguments have been fully considered and are persuasive. The existing rejections under 35 USC 112 – 2nd paragraph are hereby withdrawn.

Prior Art Rejections

Summary of Argument: The applicant has amended independent claims 1 and 15 to add the limitation that the spatial database is dedicated to storing only vector data. The applicant argues that the Maruyama reference, which was used as the base reference in the previous rejection, does not disclose this feature.

Examiner's Response: The applicant's arguments have been fully considered but are not persuasive.

With regard to claim 15, which is representative of claim 1, part (a) of the claim states that the geographical map image storage database only stores geographical map images; part (g) refers to these geographical map images as "spatial information". Additionally, part (j) of the claim states that the spatial database only stores vector data; part (i) states that the vector data comprises "geographical elements". Since geographical map images are inherently comprised of geographical elements and both geographical images and geographical elements qualify as spatial information, the currently recited claims make no clear distinction between the types of data stored in the two databases. It follows that the spatial information database disclosed in Maruyama stores only geographical map images, since all the information stored in said database qualifies as the geographical map image information recited in the claim. Additionally, the spatial information database disclosed in Maruyama only stores vector data, since all the information stored in said database qualifies as the vector data recited in the claim. Therefore claims 1 and 15, as currently recited, are not allowable over the the combination of Maruyama, Budge and Ratnakar used in the previous action.

It should be noted that the currently recited independent claims are not allowable over the cited combination of references mainly because the breadth of the claim language does not clearly distinguish between the

types of data held in the geographical map image database and the types of data held in the spatial database. The examiner realizes that a future amendment to the claim could easily correct this problem and consequently cause the independent claims to be allowable over the cited combination. An amendment to this effect would still fail to put the independent claims in condition for allowability, however, as there is no shortage of prior art which teaches the limitation of separating the raster map data and the vector data into two databases.

For example, Barros (USPN 6,307,573) discloses a base map database which stores the base map elements (Barros col. 11 lines 33-35). This base map database disclosed in Barros is analogous to geographical map image database recited in the claims.

Barros further discloses a topical database which stores the topical layer information (Barros col. 11 lines 38-40). This topical layer information comprises geographical elements such as rivers, streets, parks, etc. (Barros col. 11 lines 28-31) that qualify as the vector data recited in the claims. It follows that the topical database disclosed in Barros is analogous to the spatial database recited in the claims.

The above example is provided so that the applicant will be made more aware of the existing prior art and prosecution can consequently be expedited.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama (US Patent 6,430,498 B1) in view of Budge (US Patent Publication 2002/0080408 A1) and Ogawa (US Patent 5,864,632) and Ratnakar (US Patent 6,278,432 B1).

With regard to claim 15, which is representative of claim 1, Maruyama discloses retrieving geographical map images from an image storage database (Maruyama column 3 lines 35-65). Maruyama further discloses compressing data before sending it to the client side (Maruyama column 3 lines 49-52). The portable terminal (element 61 of Figure 9) as disclosed in Maruyama is analogous to a client side as recited in the claim. Maruyama further discloses transmitting map data over a network to a client side (Maruyama column 9 lines 5-27 in conjunction with Figure 9). Maruyama also discloses displaying raster images using one of either spatial information and a map viewer or spatial information and a map editor (Maruyama column 3 lines 50-64). The portable terminal as disclosed in Maruyama is analogous to a map viewer as recited in the claim because it displays the spatial information (or "entire map data" as stated on line 61 of column 3). Maruyama further discloses sending

queries to a spatial database based on user requirement (Maruyama column 5 lines 30-39 in conjunction with Figure 2). The retrieving conditions set by the user and shown in element 103 of Figure 2 as control input, are analogous to queries as recited in the claim. Maruyama further discloses retrieving vector data comprising of geographical elements from the database (Maruyama column 5 line 63 – column 6 line 5). The retrieval of a route between a present place and a destination as disclosed in Maruyama is analogous to vector data comprising of geographical elements as recited in the claim in that data corresponding to distance and direction to a location is retrieved. This is further shown on lines 45-51 in column 6 of Maruyama.

With respect to step (j), the claim recites retrieving information from a spatial database using metadata and geocode of the coordinate related with the geographical elements on the vector data. In this particular environment, the term metadata simply means data that provides information about the image data that is being retrieved. Maruyama discloses using metadata in the retrieval of map information corresponding to a certain location (Maruyama column 5 line 48 – column 6 line 4). The location information, direction information and retrieval conditions as disclosed in Maruyama are all analogous to metadata as recited in the claim in that they are providing information about the image data being retrieved. Further, the geocode of a coordinate is defined as the demographic characterization of that particular locality. Maruyama discloses retrieving information about the movies, entertainment, business events, restaurants, etc. that corresponded to a particular locality (Maruyama column 3 lines 47-49). This information is analogous to the geocode of a coordinate as recited in the claim.

Maruyama also discloses a management information system (Maruyama column 9 lines 14-18 and Figure 9). The database management system as disclosed in Maruyama is analogous to the management information system as recited in the claim. Although Maruyama does not expressly disclose that geographical information is stored in the management information system, any database management system would have to store geographical information in order to successfully serve the purpose of managing the database. As a result, the storing of geographical information is inherent in the functioning of the management information system. Maruyama also discloses a spatial database that stores vector data (Maruyama column 9 lines 24-25). The map information as disclosed in Maruyama is analogous to vector data as recited in the claim. Maruyama further discloses storing geographical map information (Maruyama column 3 lines 45-48).

With regard to the limitation of a spatial database for storing vector data and a geographical map image storage database for storing geographical map images, part (a) of the claim states that the geographical map image storage database only stores geographical map images; part (g) refers to these geographical map images as "spatial information". Additionally, part (j) of the claim states that the spatial database only stores vector data; part (i) states that the vector data comprises "geographical elements". Since geographical map images are inherently comprised of geographical elements and both geographical images and geographical elements qualify as spatial information, the currently recited claims make no clear distinction between the types of data stored in the two databases. It follows that the spatial information database disclosed in Maruyama stores only geographical map images, since the information stored in said database qualifies as the geographical map image information recited in the claim.

Additionally, the spatial information database disclosed in Maruyama only stores vector data, since the information stored in said database qualifies as the vector data recited in the claim.

Maruyama fails to expressly disclose the compression and transmission method that the applicant recites in parts (b)-(f) of the claim. Maruyama does mention the compression of the image data and then the transmission of that image data over a network, but does not disclose a method. Budge, however, discloses a method for compressing images for the purpose of transmission over a network and then reconstructing the image at the remote location (Budge paragraph 34 lines 1-7). Budge discloses transforming raster images into wavelet data stream, which is completely retransformable back to the original raster images (Budge paragraph 34 line 7 – paragraph 35 line 4). Budge also discloses compressing the wavelet data format stream into the compressed data stream (Budge paragraph 36 lines 4-11) and then transmitting the compressed data stream over a network to the client side (Budge paragraph 34 lines 5-7). Budge also discloses decompressing the compressed data stream into wavelet data stream and then retransforming the wavelet data stream into the raster images (Budge paragraph 88 in conjunction with Figure 8). It would have been obvious to one reasonably skilled in the art at the time of the invention combine the method of transforming an image into wavelet data, compressing the wavelet data, transmitting the compressed data over a network, decompressing the data into wavelet data and then retransforming the wavelet data back into image data as taught by Budge with Maruyama's broadly stated compression and transmission system. Such a modification would have allowed for a fast, efficient method of compressing image data (Budge paragraph 10 lines 6-10) that is well known in the art as a way to speed up the transmission of image data over a network (Budge paragraph 4).

Maruyama also fails to expressly disclose that the geographical map images contain individual raster images of the map divided from the whole map sheet or satellite image. Ratnakar, however, discloses retrieving individual raster images of the map divided from the whole map sheet or satellite image (Ratnakar column 3 line 53 - column 4 lines 7). The portion of an image or image "tile" as disclosed in Ratnakar is analogous to the individual raster images as recited in the claim. It would have been obvious to one reasonably skilled in the art at the time of the invention to combine the retrieving of portions of a larger map as taught by Ratnakar with Maruyama's method of retrieving map information based on location (Maruyama column 4 lines 6-9). Such a modification would have allowed for a method of only retrieving the map information that the user requires and therefore transmitting only the required amount of data across the network. This would have made for a more efficient system.

Maruyama also fails to expressly disclose means for editing information or vector data using spatial information and a map editor. Ogawa, however, discloses editing map information using spatial information and a map editor (Ogawa column 2 lines 8-14). The image obtained by imaging the area as disclosed in Ogawa is analogous to spatial information as recited in the claim. It would have been obvious to one reasonably skilled in the art at the time of the invention to combine the map editor as taught by Ogawa with Maruyama's map viewing and navigation system. Such a modification would have added the extra functionality to Maruyama's system by allowing the map image data to be altered as well seen and utilized. This would have made for a more dynamic system that could be updated to keep all the information current.

With regard to claim 16, which is representative of claim 2, Murayama discloses a geographical map in the form of map information (Murayama column 3 line 46). This is a form of a map.

With regard to claim 17, which is representative of claim 3, Budge discloses a wavelet transformation used to transform a map into various resolutions (Budge paragraph 9 lines 8-9).

With regard to claim 18, which is representative of claim 4, the claim recites that the various resolution maps can be filtered for only the desired resolution. Given a system with a map viewer that displays an image at a given resolution and a wavelet transform used to transform a map into various resolutions, the filtering of the various resolution maps for only the desired resolution is inherent.

With regard to claim 19, which is representative of claim 5, Budge further discloses that filtered maps are compressed by using compression algorithms (Budge paragraph 52).

With regard to claim 20, which is representative of claim 6, Maruyama further discloses using an internet network to transfer compressed data (Maruyama element 65 of Figure 9).

With regard to claim 21, which is representative of claim 7, Budge further discloses the decompression of compressed data into wavelet data format (Budge paragraph 88).

With regard to claim 22, which is representative of claim 8, Budge further discloses that wavelet format data is retransformed into a digital image such as a geographical map (Budge paragraph 88).

With regard to claim 24, which is representative of claim 10, steps (a) and (d) have already been addressed above. The claim further recites storing map geocode that links to the information in the MIS. The use of geocode has already been addressed with respect to claim 1. Arguments have also been made above with respect to a spatial information database that stores data such as geocode and an MIS (referred to as database management system in Maruyama) that manages the information stored in the spatial database. As a result, geocode stored in a spatial database inherently links to the information in the MIS. In addition, sending geocode to the MIS information is also inherent in such a system.

With regard to claim 25, which is representative of claim 11, the use of metadata in the retrieval of information from the spatial database has been addressed with respect to step (j) of claim 1.

With regard to claim 26, which is representative of claim 12, it is well known in the art that the term "metadata" refers to data which explains the meaning of data as well as its logical structure. This has been addressed above with respect to step (j) of claim 1.

With regard to claim 27, which is representative of claim 13, the claim recites that the required data is compressed and sent back to the client. The compression of data for the purpose of sending the data to a client has been addressed above with respect to claim 1.

4. Claims 9, 14, 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Maruyama, Budge, Ogawa and Ratnakar as applied to claim 1 above, and further in view of Yonezawa (US Patent

6,542,191 B1). The arguments as to the relevance of said combination as applied in paragraph 2 above are incorporated herein.

With regard to claim 23, which is representative of claim 9, steps (a) and (c) have already been addressed in paragraph 2 with respect to claim 1. The further limitation recited in step (b) that the user controls the zooming and panning of the image is not expressly disclosed in the aforesaid combination. Maruyama discloses that the user controls conditions related to the display of map image data, but does not expressly mention zooming and panning as possible functions. Yonezawa, however, discloses receiving user input (the user inputs information using various buttons as described on column 6 lines 55-57 of Yonezawa) to control the zooming and panning of a map image. It would have been obvious to one reasonably skilled in the art at the time of the invention to combine the user controlled panning and zooming functions as taughty by Yonezawa with the user controlled map display system taught by the aforesaid combination. Such a modificatin would have added an extra feature to a map display system and would have made such a system more robust, user friendly and generally useful.

With regard to claim 28, which is representative of claim 14, all of the steps have been previously addressed except for steps (f)-(h), which deal with the storing of changed or new information. The combination of Maruyama, Budge, Ogawa, Ratnakar and Yonezawa teaches the editing of map data, allows for a user to change query information, discloses a management information system, a spatial database and a geographical map image storage. The further limitations are all inherent given a system such as this. The changed user information would have to be stored in the management information system because the management information system determines what image data is sent to the user for display. In addition, the changed vector data would have to be stored in the spatial database since the spatial database is responsible for storing the vector data portion of the image. Further, the new geographical image map data would have to be stored in the geographical map image storage given that the geographical map image storage is responsible for storing this portion of the image.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (703) 305-6301. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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